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IS 12606 : 1989

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Indian Standard

TRANSPORT TRACTORS AND TRAILERS — STATIC LOAD ON BALL COUPLINGS

भारतीय मानक

परिवहन ट्रैक्टरों और ट्रेलरों द्वारा बाल-युग्मनों पर स्थिर भार

UDC 629·114·2/3·013 : 620·172

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

September 1989

Price Group 1

Transport Tractors and Trailers Sectional Committee, MCPD 10

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 9 February 1989, after the draft finalized by the Transport, Tractors and Trailers Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

In order to achieve international coordination on the subject, this standard is based on ISO/TR 4114-1974 'Road vchicles-caravans and light trailers — Static load on ball couplings', issued by International Organization for Standardization (ISO).

Indian Standard

TRANSPORT TRACTORS AND TRAILERS — STATIC LOAD ON BALL COUPLINGS

1 SCOPE

1.1 This standard lays down the limiting values of static load applied vertically by transport tractors and trailers on ball coupling fitted to the towing vehicles.

1.2 This standard applies to transport tractors and trailers for which the maximum authorized weight does not exceed 3·5 tonnes.

1.3 This standard does not apply to unbraked trailers and twin-axle trailers.

2 REFERENCES

The following Indian Standard is necessary adjuncts to this standard:

IS No.	*Title*
IS 12351 : 1988	Specification for coupling ball for caravans and light trailers

3 TERMINOLOGY

3.1 Maximum Authorized Weight

Weight calculated by the administrative authority for operating conditions laid down by the authority.

3.2 Maximum Manufacturer's Total Weight

Weight calculated by the manufacturer for specific operating conditions, taking into account such elements as, strength of materials, tyre loading capacity.

4 CONDITIONS FOR MEASUREMENT OF STATIC LOAD

4.1 The towed vehicle shall be placed on a horizontal surface and the centre of engagement of the coupling ball within the coupling head shall be situated within the limits of height given in IS 12351 : 1988.

4.2 The value of the static load shall be measured along the vertical line of action passing through the centre of engagement of the coupling ball in the coupling head.

4.3 The towed vehicle shall be loaded up to its maximum authorized weight. The load shall be distributed according to the manufacturer's specification.

5 VALUES OF STATIC LOAD

5.1 The values of load measured under the conditions specified above shall be within the following limits (*see* Fig. 1).

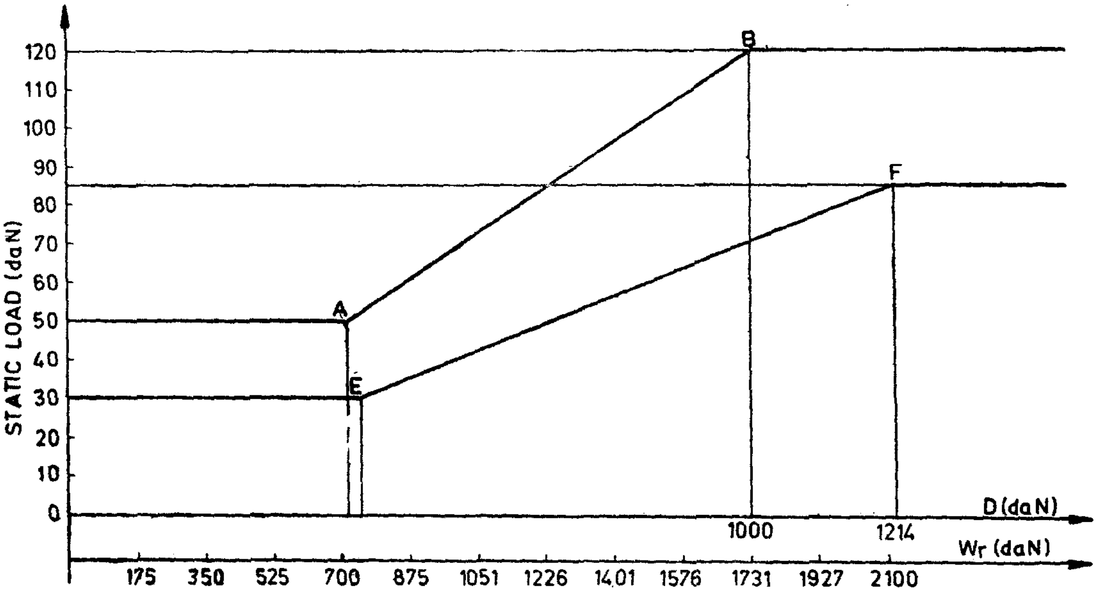

FIG. 1 LIMITS OF THE STATIC LOAD

5.1.1 *Upper Limit*

Straight line *AB* of equation $Y = 0{\cdot}12\ D$, limited to point *A* with a coordinate of 50 daN and *B* with a coordinate of 120 daN, completed by the horizontal line $Y = 50$ daN for the coordinates below that of *A* and $Y = 220$ daN for the coordinates above that of *B*.

5.1.2 *Lower Limit*

Straight line *EF* of equation $Y = 0{\cdot}07\ D$, limited to point *E* with a coordinate of 30 daN and *F* with a coordinate of 85 daN, completed by the horizontal line $Y = 30$ daN for the coordinates below that of *E* and $Y = 85$ daN for the coordinates above that of *F*.

where

$$D = \frac{W_m \times W_r}{W_m + W_r},$$

W_m = maximum manufacturer's total weight (towing vehicle) in decanewton, and

W_r = maximum authorized weight (towed vehicle) in decanewtons.

5.3 Application to the Towing Vehicle

The maximum authorized static road load is to be fixed by the motor vehicle manufacturer between the upper and lower limits given by the above formula.

5.3 Application to the Trailer

In order to calculate the static load for the trailer the maximum towing vehicle weight is defined as follow:

$W_m = 1{\cdot}33\ W_r$ (regardless of the actual weight of the towing vehicle)

6 MARKING

The limits of the values of static load shall be shown on the plate fixed to the front of the towed vehicle.

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